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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/757,332

01/13/2004

Matthew S. Taubman

50005-172

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10/15/2004

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EXAMINER

LAM, TUAN THIEU

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/757,332

Applicant(s)

TAUBMAN, MATTHEW S.

Examiner

Tuan T. Lam

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 28-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/13/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This is a response to the amendment filed 9/2/2004. Claims 28-46 are pending and are under examination.

#### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 28-31, 33-36, 38, 40-45, are rejected under 35 U.S.C. 102(b) as being anticipated by Dowd et al. (USP 5,123,024), prior art cited on the PTOL-1449. Figure 1 shows a transistor device (14) in a common base configuration, two input signal pathways (Id at node 5; Idac to node 5) coupled to a first terminal (emitter 16) of the transistor device, an output from a second terminal (collector) of the transistor device to a current-dependent load (30, 32) as called for in claims 28 and 35 and 42.

Regarding claim 29, a virtual ground at the first terminal is achieved by the positive terminal of 54 coupled to ground.

Regarding claims 30-31, 38 and 44, servo device (54), feedback to the servo device from the emitter of the transistor device.

Regarding claims 33, 36 and 40, diode 32 is laser diode, the control voltage is the output of the diode 10, sweep voltage is the output of the resistor 6.

Regarding claims 34 and 45, a constant bias current is seen as current source 22, a second current source is the resistor 28 biased by the supply voltage +V.

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Regarding claim 41, first current source (the resistor 16 being biased by the voltage -V), second current source (22).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 28, 32, 35, 39, 42 and 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Kobayashi (USP 6,069,534), prior art cited on the PTOL-1449. Figure 1 shows a transistor device (Q1n) in a common base configuration, two input signal pathways (V positive and V negative) coupled to a first terminal (emitter) of the transistor device, an output from a second terminal (collector) of the transistor device to a current-dependent load (Q2n) as called for in claims 28, 35 and 42.

Regarding claims 32, 39 and 46, a different transistor is seen as the transistor Q3n.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dowd et al. (USP 5,123,024), prior art cited on the PTOL-1449. Figure 1 shows a transistor device (14) in a common base configuration, two input signal pathways (Id at node 5; Idac to node 5) coupled to a first terminal (emitter 16) of the transistor device, an output from a second terminal (collector) of the transistor device to a current-dependent load (laser diode 32). The differences seen

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between Dowd et al. and the present invention is that the present invention calls for quantum cascade laser configuration. However, it is known in the art quantum cascade laser configuration is a variation of a laser diode. The substitution of one for the other will not alter the overall performance of the circuit. Therefore, outside of non-obvious results, the obviousness of using quantum cascade laser configuration over a laser diode will not be patentable under 35USC 103(a).

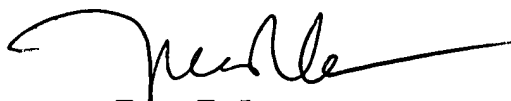
***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In this regard, applicant's cited prior art has been carefully considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan T. Lam  
Primary Examiner  
Art Unit 2816

10/4/2004